REL NORTHEAST & ISLANDS

REGIONAL EDUCATIONAL LABORATORY at EDC

1.2.118 Bullying of Disabled and Non-disabled High School Students: A Comparison Using the Maine Integrated Youth Health Survey

Sarah Guckenburg, Susan Hayes, Anthony Petrosino
Regional Educational Laboratory Northeast and Islands (REL NEI)

Thomas Hanson
Regional Educational Laboratory West (REL West)

December 2011

The authors thank the following people for their comments and assistance at various stages of the project: Jerry Bailey, Nancy Birkhimer, Pam Buffington, Rebecca Carey, Trevor Fronius, Gary Henry, Natalie Lacireno-Paquet, Melanie Lanctot, Pamela MacDougall, Susan Mundry, Jan Phlegar, Julie Riordan, and Maria Ttofi.

Overview

The issue of bullying has gained national attention recently, especially in tragic cases where bullying has been linked to teenage suicide. National and state student surveys are capturing data on how many students experience bullying each year. National estimates of bullying prevalence vary, but one national survey indicates that in 2008-2009, 28% of students age 12-18 reported they were bullied at school in the past school year (DeVoe and Murphy, 2011). Parent Information Resource Centers, among other stakeholders, are concerned about whether disabled students[1] are at greater risk for being bullied than other types of students. The research literature specifically examining this question in the United States is limited to small studies in single schools or districts, but what research is available appears to indicate that the risk for being bullied is higher for disabled students.

This project responds to stakeholder requests and adds to this research base by using statewide data from the 2009 Maine Integrated Youth Health High School Survey (MIYHS) to analyze and compare rates of reported bullying for disabled and non-disabled students. The MIYHS is a biennial survey of students from grades 9-12.

Secondary analyses of the MIYHS data set were conducted to respond to three questions:

- Do high school students who have a disability report being bullied more than non-disabled students? How do rates of reported bullying for disabled students vary by type of disability (physical/health disability and emotional/behavioral disability)?
- How do rates of reported bullying for disabled and non-disabled high school students vary by location (on versus off school grounds) and method (in person versus electronic)?
- Within demographic categories such as gender, grade, race, and sexual orientation, what percentage of bullied students were disabled?

Regional Need

Given the widespread nature of bullying and its associated harms and the importance of the school safety issue at the federal level, a number of regional stakeholders have expressed interest to REL-NEI about conducting research on this issue. Interested

[1] Disabled students are defined in this study as students who have a physical, long term health problem, emotional or behavioral problem, lasting or expecting to last more than six months.

requestors include stakeholders from the Parent Resource Centers (PIRCs), The Maine Department of Public Health, The Maine Department of Education, and representatives from the Building Effective Support for Teaching Students with Behavioral Challenges (BEST) Institute in Vermont. Each request is described below.

Both the regional PIRC and a Brooklyn Parent Advocacy Group for disabled students, United We Stand (see www.uwsofny.org) have expressed considerable interest in a REL-NEI project on bullying. Lourdes Rivera-Putz, Executive Director United We Stand of NY, LTD, and a REL-NEI governing board member has also expressed interest in having the REL-NEI researchers present the findings at an in-person meeting to discuss the implications of bullying among student with disabilities and what they can learn from the Maine data.

Moreover, at a September 21, 2010 webinar about an earlier REL-NEI report on bullying (Petrosino et al. 2010), a series of questions were asked by participants prior to the event about disability. Included in these questions was the following, asked by Belinda West-O'Neal, Executive Director for the Inter-Island Parent Coalition for Change, Inc., the PIRC in the Virgin Islands: "to what degree are students with disabilities more likely to be bullied or bully than students without disabilities?"

Within the Maine Department of Public Health, Nancy Birkhimer, the Director of Teen and Young Adult Health at the Division of Family Health, stated that support for the secondary research is an example of what the Department would like to see with the MIYHS.

The Maine Department of Education has also expressed interest in this project. Dana Duncan, the state department's Part B special education data manager as well as Debra Hannigan, their State Director of Child Development Services have specifically requested to receive the findings from this project to help inform the issue of bullying among students with disabilities in Maine.

Finally, the findings from this project have also been requested to be presented to attendees from the June 2011 Building Effective Support for Teaching Students with Behavioral Challenges (BEST) Conference in Vermont. The June 2011 conference has a session planned on bullying where a REL-NEI report (Petrosino et al. 2010); along with national bullying data will be presented. All attendees of this session were offered a follow up conference call on November 8, 2011 and will be sent the final version of this technical assistance report.

Summary of Relevant Research

BULLYING AND STUDENTS WITH DISABILITIES

One major concern for parents, educators and practitioners involved in the schools is whether disabled students are particularly at risk for being bullied. A common notion is that bullies pick on children who are "different" (Hoover and Stenhjem 2003; Flynt and Morton, 2007; Hergert 2004).

The available research indicates that disabled students are indeed more likely to be bullied. Much of this research, however, has been conducted outside the United States. Carter and Spencer (2006) reviewed eleven studies in this area that were published from 1989-2003. Eight were studies using students in European nations; the other three were based in the United States. This review concludes that students with visible and non-visible disabilities experienced bullying more than non-disabled peers, and disabled boys were particularly at risk.

More recent European studies further support the findings in Carter and Spencer (2006). In a Swedish study, Holmberg (2010) reported that fourth graders in a Stockholm primary school who were diagnosed with attention-deficit disorder were significantly more likely to be bullied, than children not so diagnosed.[2] A Swiss study reported that adolescents with physical disabilities or chronic health conditions were more likely to be victims of bullying, and when bullied, to be more depressed afterwards than students without disabilities (Pittet, et al. 2010). Most of the European studies are based on convenience samples of disabled youth, and compare such youth to another convenience sample of non-disabled youth in a single school or district. A convenience sample is a sample of students that is selected based on non-representative methods (at the "convenience" of the researcher) and therefore likely does not reflect the larger population from which it is drawn.

Studies in the United States on this topic are less common than those reported in Europe, but since 2003, additional research has been conducted. For example, Twyman and her colleagues (2010) surveyed a convenience sample in one district of 100 children aged 8 to 17 years with identified "special health care needs" (i.e., learning disability, attention deficit disorder, autism spectrum disorder, behavioral or mental health disorder, or cystic fibrosis), and compared their bullying experiences to 73 children with no such diagnosis. Compared to the comparison group, children in the

[2] Holmberg (2010) also reported that fourth graders who were diagnosed with attention-deficit disorder were significantly more to bully others, than were children not so diagnosed.

learning disabilities, autism spectrum disorders, and attention deficit disorder groups experienced significantly more bullying victimization than non-disabled children. In a study of middle school students in Roanoke, Virginia, Unnever and Cornell (2003) reported that students taking medication for hyperactivity were victimized at a higher rate than students not taking such medication (34% versus 22%). Conversely, however, White and Loeber (2008), in analyzing data from a longitudinal study of a cohort of youth in Pittsburgh, Pennsylvania, reported that placement in a special education program was not associated with being teased or disliked by peers.

The need for this Study

The majority of research indicates that students with disabilities are at greater risk for being bullied than students without disabilities. However, this research, particularly in the United States, is generally based on small studies conducted in a single school or district, using comparisons of convenience samples of disabled with non-disabled youth. This project builds upon these studies by examining rates of reported bullying for disabled versus non-disabled students using survey data representative of high school students from an entire state (Maine).

Specific Research Questions

To respond to our stakeholders' interest in understanding the problem of the disabled youth and bullying, this project is designed to respond to three specific research questions:

- Do high school students who have a disability report being bullied more than non-disabled students? How do rates of reported bullying for disabled students vary by type of disability (physical/health disability and emotional/behavioral disability)?

- How do rates of reported bullying for disabled and non-disabled students vary by location (on versus off school grounds) and method (in person versus electronic)?

- Within demographic categories such as gender, grade, race, and sexual orientation, what percentage of bullied students were disabled?

Research Plan

Data Sources

The researchers acquired and analyzed the high school version of the Maine Integrated Youth Health Survey (MIYHS). The MIYHS was a state effort to consolidate the existing surveys that were taking place at schools into one effort. The 2009 MIYHS was the first administration of the consolidated survey, and was administered to students in grades K-12, who attended school during administration in representative samples of schools across the state.

This project only examined the high school sample of the MIYHS, and so sampling procedures are only described for that population. All 134 public and quasi-public high schools (i.e., private schools with 60% of its students that are publicly funded) in Maine were invited to participate in the survey in 2009. Of those schools, 108 high schools eventually participated in the administration. Passive consent procedures were used: parents of high school students were asked to let the school know if they did not consent to their child's participation. Students could also opt out of the survey on the day of administration. The 108 participating high schools had a total enrollment of 51,121 students; 40,329 took the survey (all students in the participating schools were invited to participate in the survey). Thus, the MIYHS high school survey achieved an 82 percent *school* response rate and a 79 percent *student* response rate, for an overall response rate of 65 percent. Of the 40,329 students that took the survey, 10,680 were included in this study. The reasoning behind selecting this subset of survey participants is explained below.

Because the responding schools and students may have led to a survey sample that is different on various characteristics than students from the sampling frame of all high schools, the MIYHS high school data were also weighted for school and student non-response (see the limitations section and Appendix A for information on how the data was weighted). Full details of the weighting can be found in the Methodological Summary for MIYHS (Pan Atlantic SMS Group, 2010a).

Methods and Data Analysis Plan

Definitions of Bullying, Students with Disabilities and Control Variables

Definitions of bullying vary across researchers. For example, bullying has been defined by one group of researchers as “a form of aggression in which one or more children intentionally and repeatedly harass, intimidate or physically harm a victim” (Vreeman & Carroll, 2007). Olweus says a student is bullied when he or she is “exposed, repeatedly

and over time, to negative actions on the part of one or more other students" (Olweus 1993, p. 9). Generally, most bullying definitions include intentional acts of harm, repetition, and some notion of a power imbalance between a victim and bully. For the purpose of this study, students who indicated on the survey that, in the past 12 months, they had been bullied on school property, away from school property, or been electronically bullied such as through e-mail, chat rooms, instant messaging, websites or text messaging were identified as being bullied.

Defining students with disabilities is also challenging, as some research looks at particular disabilities such as physical disabilities while others examine emotional, behavioral or learning disabilities such as autism, attention deficit disorders, or learning disabilities. The definition of a student with a disability, for the purpose of this study, is a student having a physical, long term health problem, emotional or behavioral problem, or a student who is limited in activities because of a disability or health problem (including physical health, emotional or learning problems) lasting or expecting to last more than six months. This is the definition used by the MIYHS and several other state Youth Risk Behavior Surveys.

Other demographic variables used in this analysis are defined by the MIYHS survey. For example, sexual orientation had four categories, heterosexual, gay/lesbian, bisexual, and unsure. Race and ethnicity had seven categories including American Indian/Alaskan Native, Asian, Black or African American, Hispanic, White, other races, multiple races. Grade level contains categories for grades 9, 10, 11, and 12 and gender is defined as male or female.

Analysis Plan

Descriptive statistical analyses were conducted to provide better understanding of the risk of bullying for students with and without disabilities. To provide this understanding, the project included a number of comparisons between disabled students and students who do not identify themselves as disabled.

The MIYHS, like many state administrations of the Youth Risk Behavior Survey (YRBS)[3], does not define bullying and allows students to self-define whether they have been a victim of it. The three items in the MIYHS about bullying are:

- During the past 12 months, have you ever been bullied on school property?
- During the past 12 months, have you ever been bullied away from school property?
- During the past 12 months, have you ever been electronically bullied, such as through e-mail, chat rooms, instant messaging, web sites or text messaging?

[3] Note that MIYHS consolidated several youth surveys into one administration, including the YRBS.

A student is considered bullied if they answer "yes" to at least one of these three items. About 20-23% responded "yes" in 2009, depending on the bullying item asked (Pan Atlantic SMS Group, 2010b).

The MIYHS also asks several items about disability. A definition of disability (something lasting or expected to last six months or more) is provided in the items:

- Do you have any physical disabilities or long-term health problems lasting or expected to last 6 months or more?
- Do you have any long-term emotional or behavioral problems lasting or expected to last 6 months or more?

These two items were used to distinguish between those students in the sample that self-report a disability (those who answered "yes" to at least one of these two items) and those who did not. In 2009, approximately 24 percent of students indicated yes to one of the first two items about disability status. For each item individually, approximately 16 percent of students indicated yes.

There are four modules (A, B, C, and D) in the MIYHS survey, each with a different combination of questions. Classes were randomly assigned one of the four modules (Pan Atlantic SMS Group, 2010b). For the purpose of this report, we selected only the students who received module D because this was the only module containing both the disability and the bullying questions. A total of 40,329 students took the survey and 10,680 students were assigned module D. Due to missing student data, the unweighted number of students in individual analyses may not equal 10,680.

To test for differences between disabled and non-disabled students, Pearson's chi square tests were used, given that the independent and dependent variable were both nominal or categorical in nature, e.g., disabled/non-disabled and bullying/no bullying. A comparison between disabled and non-disabled students will be judged to be statistically significant[4] if it meets the .05 (two-tailed) criterion.

FINDINGS

Question 1: Do high school students who have a disability report being bullied more than non-disabled students? How do rates of reported bullying for disabled students vary by type of disability (physical/health disability and emotional/behavioral disability)?

[4] By statistically significant, it means the effect is large enough given the sample size and other conditions, that it is not likely to have occurred due to the play of chance.

Students with disabilities are more likely than their non-disabled peers to be bullied. Almost 50 percent of students with a disability report being bullied compared with approximately 28.5 percent of students without a disability (see Table 1a). Students with certain disability types also seem more likely to be bullied than others. For example, 56 percent of students with long-term emotional or behavioral problems reported being the victim of bullying (see Table 1b). The likelihood of being bullied was somewhat lower for students with physical or long-term health problems (48.1 percent) (see Tables 1b and 1c).

Table 1a: Percentage of students reporting that they were a victim of bullying, by disability status, 2008-09 school year

Disabled Students (Standard Error) (n=2282)	**Non-Disabled Students** (SE) (n=7166)	**Chi-square value**
49.9% (1.2)	28.5% (0.8)	352.8*

*Significant at the .001 level
Note: The analyses were done using weighted data; N's reported in the tables are the unweighted totals of the students responding to the survey.

Table 1b: Percentage of students reporting that they were a victim of bullying, by physical or long term health disability status, 2008-09 school year

Physical or long term health problems		
Yes (SE) (n=1364)	**No** (SE) (n=7470)	**Chi-square value**
48.1% (1.7)	30.2% (.7)	167.6*

*Significant at the .001 level
Note: The analyses were done using weighted data; N's reported in the tables are the unweighted totals of the students responding to the survey.

Table 1c: Percentage of students reporting that they were a victim of bullying, by long term emotional or behavioral problem disability status, 2008-09 school year

Long term emotional or behavioral problems		
Yes (SE) (n=1426)	**No** (SE) (n=7497)	**Chi-square value**
56.0% (1.6)	28.5% (.7)	406.1*

*Significant at the .001 level
Note: The analyses were done using weight data; N's reported in the tables are the unweighted totals of the students responding to the survey.

Question 2: How do rates of reported bullying for disabled and non-disabled students vary by location (on versus off school grounds) and method (in person versus electronic)?

Students with disabilities are also more likely than their non-disabled peers to be bullied in a variety of settings and contexts. For example, Table 2a shows that a higher percentage of students with disabilities report being bullied compared to their classmates on school property (33.6 vs. 18.0 percent) and away from school property (30.8 vs. 13.1 percent).

Table 2a: Percentage of students reporting that they were a victim of bullying, by location of bullying and disability status, 2008-09 school year

Victim of bullying by type of bullying	Disabled Students (SE)	Non-Disabled Students (SE)	Chi-square value
Bullied on school property (N=2007)	33.6% (1.2)	18.0% (.6)	237.9*
Bullied away from school property (N=1586)	30.8% (1.2)	13.1% (.6)	366.4*

*Significant at the .001 level
Note: Students may fall in more than one category; results do not add up to 100%.The analyses were done using weighted data; N's reported in the tables are the unweighted totals of the students responding to the survey.

Students were also asked about cyber bullying. Table 2b shows that students with disabilities report being bullied more often than their classmates via electronic means (31.4 vs. 15.9 percent).

Table 2b: Percentage of students reporting that they were a victim of bullying by electronic means, by disability status, 2008-09 school year

Victim of bullying by type of bullying	Disabled Students (SE)	Non-Disabled Students (SE)	Chi-square value
Bullied via electronic means (N=1768)	31.4% (1.2)	15.9% (.6)	252.9*

*Significant at the .001 level
Note: The analyses were done using weighted data; N's reported in the tables are the unweighted totals of the students responding to the survey.

Question 3: Within demographic categories such as gender, grade, race, and sexual orientation, what percentage of bullied students were disabled? (Note: To examine this question, only students who reported being bullied were included in the analysis.)

When investigating student-level characteristics associated with bullying, differences in the percentage of disabled students being bullied emerge within race/ethnicity and sexual orientation categories, but not by gender or grade-level. Table 3 indicates that there were no statistically significant differences in the percentages of male and female

students with disabilities who were bullied. Table 4 indicates that disabled students' grade-level is also not associated with bullying.

Bullied Students Only:

Table 3: Percentage of bullied students with disabilities, by gender

	Males (SE) (n=1442)	**Females** (SE) (n=1631)	**Chi-square value**
Disabled (n=1129)	34.3% (1.6)	36.0% (1.6)	0.948

Note: The analyses were done using weighted data; N's reported in the tables are the unweighted totals of the students responding to the survey.

Table 4: Percentage of bullied students with disabilities, by grade level

	Grade 9 (SE) (n=941)	**Grade 10** (SE) (n=889)	**Grade 11** (SE) (n=692)	**Grade 12** (SE) (n=517)	**Chi-square value**
Disabled (n=1118)	33.7% (1.8)	35.3% (2.4)	35.0% (2.2)	37.9% (2.5)	2.4

Note: The analyses were done using weighted data; N's reported in the tables are the unweighted totals of the students responding to the survey.

However, race/ethnicity does seem to be related to incidents of bullying. Hispanic students with disabilities, disabled students who reported their race as "Other," and those who reported being of multiple races were significantly more likely than their peers in other race/ethnicity categories to be bullied (see Table 5). Table 6 shows that heterosexual students seem less likely to be bullied than disabled students who report being gay/lesbian, bisexual, or not sure. Students with disabilities who identify as bisexual or who are "not sure" of their sexual orientation reported higher rates of bullying than students with disabilities who identify as gay or lesbian.

Table 5: Percentage of bullied students with disabilities, by race/ethnicity

	American Indian or Alaska native (SE) (n=87)	**Asian** (SE) (n=45)	**Black or African American** (SE) (n=70)	**Hispanic** (SE) (n=200)	**White** (SE) (n=2420)	**Other Races** (SE) (n=18)	**Multiple Races** (SE) (n=116)	**Chi-square value**
Disabled (n=1080)	30.9% (5.1)	32.2% (7.1)	30.1% (5.6)	51.4% (5.2)	33.0% (1.2)	52.2% (13.5)	50.4% (5.3)	43.8*

*Significant at the .001 level

Note: The analyses were done using weighted data; N's reported in the tables are the unweighted totals of the students responding to the survey.

Table 6: Percentage of bullied students with disabilities, by sexual orientation

	Heterosexual (SE) (n=2615)	**Gay or Lesbian** (SE) (n=104)	**Bisexual** (SE) (n=232)	**Not Sure** (SE) (n=129)	**Chi-square value**
Disabled (n=1127)	30.6% (1.2)	45.6% (7.5)	66.0% (3.6)	63.6% (5.2)	167.0*

*Significant at the .001 level
Note: The analyses were done using weighted data; N's reported in the tables are the unweighted totals of the students responding to the survey.

IMPLICATIONS

To summarize, the results of these analyses provide, as far as we know, the first examination of the relationship between bullying and disability using a statewide sample. Three major findings emerged.

- First, findings from national and international research that indicate that students with disabilities are at risk for bullying were supported: high-school students with disabilities in Maine are more likely than their non-disabled peers to be bullied. While students with either physical or emotional/behavioral disabilities were at-risk for being bullied, students with emotional/behavioral disabilities were more likely to be bullied than students with physical disabilities.

- Second, this increased risk existed across location and type of bullying. Students with disabilities were more likely to experience bullying on or off school grounds or via electronic means (e.g., “cyber-bullying”).

- Third, specific groups of students with disabilities; Hispanic students, students of “other” races, students of multiple races; and students who identify as gay, lesbian, bisexual or who are not sure of their sexual orientation are even more likely to be victimized by bullying than other disabled students.

The information gleaned from the MIYHS data set about the extent of the bullying problem in Maine can help policymakers and practitioners target their support and interventions to the most vulnerable students and the contexts in which bullying is most likely to take place. Any efforts undertaken in Maine to combat bullying should take into account that students with disabilities are particularly at-risk as well as consider the specific student-level factors that seem to be related to increased reports of bullying.

LIMITATIONS

The proposed data analyses are limited to the variables available in the data set. The bullying items do not specify the types of bullying behavior that students were victimized by (e.g., physical bullying such as pushing and shoving). In addition, the disability items do not provide further data on the specific types of disabilities--beyond broad categories--that students may have (e.g., autism, ADHD). This, however, is a very common structure for state and national surveys such as the YRBS (e.g., U.S. Centers for Disease Control (2010). Comparisons Between State or District and National Results can be found online at http://www.cdc.gov/HealthyYouth/yrbs/state_district_comparisons.htm).

A second limitation is that the MIYHS represents responses by students in grades 9-12 to a self-report survey. As a result, this analysis relies on student reports of their own classification as a victim of bullying and whether they self-identify as having a disability. Although self-report is considered an improvement over official reports because bullying victims are often reluctant to report victimization to school officials (Petrosino et al 2010), self-reports are susceptible to other biases. It should also be noted that students were not asked directly about learning disabilities when asked about their disability status. Ideally, other measures related to bullying status and disability would be derived from independent observation or other means; the MIYHS data are limited, however, to the self-report by a single student.

Another limitation to note is that although the data was weighted for school and student non-response, disability status was not one of the variables used to weight the data. Therefore, we can't definitively state that this represents all disabled students in the state.

APPENDIX A – SAMPLING AND WEIGHTING PROCEDURES

This study used data from MIYHS that was weighted to account for student and school non-response. The purpose of weighting the data is to provide as accurate a picture as possible of high school students in Maine. Weights ("Finalwt_ABCD") are used in the MIYHS to take non-response into account to provide more accurate estimates of population parameters.

Also, the MIYHS is not a simple random sample, which many common statistical procedures assume. Instead, the survey is based upon a stratified, multi-stage cluster sample design. The complex sampling design utilized required the use of sample weights to derive accurate point estimates and adjustments for clustering and stratification to compute standard errors. To estimate statistics, standard errors, and significance tests, the Taylor series linearization method using the primary sampling units and strata variables available in the dataset was implemented. The Taylor series linearization approach is the default method used in the survey commands in Stata 11 (the analysis software used by this project) used to handle complex survey data (StataCorp 2009).

REFERENCES

Carter, B.B. and V.G. Spencer (2006). The fear factor: Bullying and students with disabilities. International Journal of Special Education 121 (1): 11-23.

DeVoe, J.F., and Murphy, C. (2011). *Student Reports of Bullying and Cyber-Bullying: Results From the 2009 School Crime Supplement to the National Crime Victimization Survey.* U.S. Department of Education, NCES, 2011-336. http://nces.ed.gov/pubs2011/2011336.pdf

Flynt, S.W. and R.C. Morton (2007) Bullying prevention and students with disabilities. *National Forum of Special Education Journal* 19, 1, 1-5.

Hergert, L. (2004). Bullying and students with disabilities: Summary report of parent focus groups. Newton, MA: Education Development Center, Retrieved online from http://www.urbancollaborative.org/pdfs/Bullying.pdf.

Holmberg, K. (2010). The association of bullying and health complaints in children with attention-deficit/hyperactivity disorder. *Postgraduate Medicine* 122(5):62-8.

Hoover, J. and P. Stenhjem (2003). Bullying and teasing of youth with disabilities: Creating positive school environments for effective inclusion. Issue Brief, Examining Current Challenges in Secondary Education and Transition, volume 2, issue 3. Available online at http://www.ncset.org/publications/issue/NCSETIssueBrief_2.3.pdf

Olweus, D. (1993). *Bullying at school: what we know and what we can do.* New York: Blackwell.

Pan Atlantic SMS Group (2010a). 2009 Maine Integrated Youth Health Survey. Methodological Report. Portland, ME: Author.

Pan Atlantic SMS Group (2010b). 2009 Maine Integrated Youth Health Survey. Portland, ME: Author.

Petrosino, A., Guckenburg, S., DeVoe, J., and Hanson, T. (2010). What characteristics of bullying, bullying victims, and schools are associated with increased reporting of bullying to school officials? (Issues & Answers Report, REL 2010–No. 092). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Northeast and Islands.

Pittet, I., Berchtold, A., Akre, C., Michaud, P.A., & Suris, J.C. (2010). Are adolescents with chronic conditions particularly at risk of bullying? *Archives of Disease in Childhood*, 95, 711 - 716.

StataCorp (2009). *Stata Statistical Software: Release 11* College Station, TX: StataCorp LP.

Twyman, K.A., Saylor, C.F., Saia, D., Macias, M.M., Taylor, L.A, & Spratt, E. (2010). Bullying and ostracism experiences in children with special health care needs. *Journal of Developmental and Behavioral Pediatrics*, 31 (1), 1 – 8.

Unnever, J.D. and D.G. Cornell (2003) Bullying, self-control and ADHD, *Journal of Interpersonal Violence*, 81 (2) 129-147.

U.S. Centers for Disease Control (2010). Comparisons Between State or District and National Results. Online at http://www.cdc.gov/HealthyYouth/yrbs/state_district_comparisons.htm

Vreeman, R. C., & Carroll, A. E. (2007). A systematic review of school-based interventions to prevent bullying. *Archives of Pediatric and Adolescent Medicine, 161*, 78-88.

White, N.A. & Loeber, R. (2008). Bullying and special education as predictors of serious delinquency. *Journal of Research in Crime and Delinquency*, 45 (4), 380 – 397.